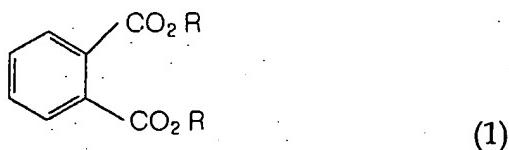


## CLAIMS

What is claimed is:

1. A facilitated transport membrane for olefin/paraffin separation, which  
5 comprises a polymer, a silver salt, and a phthalate represented by the following  
formula (1):



wherein R denotes an alkyl group of 2 to 8 carbon atoms or a phenyl group.

- 10 2. The membrane of claim 1, wherein said polymer contains electron-donating heteroatoms in the polymer structure.

- 15 3. The membrane of claim 2, wherein said polymer is selected from the group consisting of polyvinylpyrrolidone (PVP), poly(2-ethyl-2-oxazoline), polyvinylmethylketone, polyvinylformal, polyvinylacetate, cellulose acetate (CA), cellulose acetate butyrate (CAB), polyacrylate, polymethylmethacrylate (PMMA) and polyacrylic acid.

- 20 4. The membrane of claim 1, wherein the molar ratio of said silver salt to the repeating unit of the polymer is in the range of 0.5 - 3.

5. The membrane of claim 1, wherein said silver salt is selected from the group consisting of AgBF<sub>4</sub>, AgPF<sub>6</sub>, AgSO<sub>3</sub>CF<sub>3</sub>, AgClO<sub>4</sub> and AgSbF<sub>6</sub>.

6. The membrane of claim 1, wherein the loading of said phthalate is in the range 0.05 - 10 wt% with respect to the polymer.

5        7. A method for preparing a facilitated transport membrane for olefin/paraffin separation comprising steps of:

successively dissolving a polymer, a silver salt and a phthalate compound, in a solvent, so as to form a homogeneous solution; and

10      coating said solution onto a support substrate; and drying the coated support in a condition free from light and oxygen.

8. The method of claim 7, wherein said solvent is alcohol of 1 to 4 carbon atoms, or tetrahydrofuran (THF).

15      9. The method of Claim 7, wherein said support substrate is microporous.

10. The method of Claim 7, wherein said solution is coated onto a glass plate without using the support substrate, dried and then removed from the glass plate.

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